ABSTRACT OF THE DISCLOSURE

An autostereoscopic optical apparatus (10) provides a stereoscopic virtual image to be viewed by an observer at a left viewing pupil (14l) and a right viewing pupil (14r). Apparatus (10) has left and right image generation systems (100l) for forming left and right curved images, each image generation system having a curved mirror (92), a beamsplitter (102) disposed between the vertex of the curved mirror (92) and the mirror's center of curvature, and an image source (94) for providing image-bearing light to the curved mirror (92). The curved mirror (92) cooperates with the beamsplitter to form an intermediate image of the image source (94). A field lens (112) is disposed near the intermediate image for imaging the mirror center of curvature toward the image center of curvature. A ball lens segment (130) is centered at the image center of curvature for forming the curved image from the intermediate image. A ball lens imaging spherical mirror (24) cooperates with a beamsplitter (16) to form images of left and right ball lens segments (130l, 30r) at left and right viewing pupils (14l, 14r).